APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,563	03/29/2001	Dean Rosales	INTL-0536-US (P10841)	5880

			EXAMINER
21906	7590	06/03/2004	TUCKER, WESLEY J

TROP PRUNER & HU, PC
8554 KATY FREEWAY
SUITE 100
HOUSTON, TX 77024

ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)
Office Action Summary	09/821,563		ROSALES, DEAN
	Examiner		**Art Unit**
	Wes Tucker		2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 March 2001</u>.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
  closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-25</u> is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-25</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>29 March 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All   b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
  Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's response to the last Office Action, filed March 15, 2004 has

been entered and made of record.

2.   Applicant has amended Claim 23. Claims 1-25 are pending.

3.   Applicant's arguments have been fully considered but are not persuasive

for at least the following reasons:

4.   The applicant's response in regard to the rejection under 35 U.S.C. 112,

first paragraph of claims 1, 9, 11, and 19 is noted, however rejection is maintained. It is

still unclear how the applicant defines "simultaneously." In the applicant's response on

p.6 in the last paragraph a "simultaneous" calculation of a 3x3 filter and a 5x5 filter. The

5x5 filter is calculated using information obtained "due to the prior calculation of the 3x3

filter." Therefore the calculation of the 5x5 filter must take place at some moment after

the 3x3 filter calculation because the 3x3 calculation is referred to as prior. This is in

direct contradiction with the conventional definition of simultaneous which is taken to

mean occurring at the same time. Therefore the 112 rejections of claims 1, 9, 11, and

19 are maintained.

5.   With regard to applicant's comments on the 102 rejections of claims 1, 11,

and 21, the rejection is maintained. On page 5 of applicant's response, the third

paragraph makes reference to lines 23 and 24 of page 3, where it is explained that a

plurality of different kernels may be needed. In the context of the application it is

understood that those kernels are needed to calculate the different sized filters from

those kernels. This is the same practice taught in Park (column 7, lines 52-58).

Therefore the 102 rejections of claims 1, 11, and 21 are maintained.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of
making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 9, 11, and 19 are rejected under 35 U.S.C. 112, first paragraph, as

based on a disclosure, which is not enabling. The method of "simultaneously

determining" filters is critical or essential to the practice of the invention, but not included

in the claim(s) is not enabled by the disclosure. See In re Mayhew, 527 F.2d 1229, 188

USPQ 356 (CCPA 1976). It is unclear from the disclosure of the specification as to how

different filters are determined both simultaneously as stated in claims 1, 9, 11, and 19

and progressively as stated in claims 4, 10, 14, and 20. Please clarify how filters are

determined simultaneously.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office

action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 8-11, 14, and 18-20 are rejected under 35 U.S.C. 102(b) as being

anticipated by U.S. Patent 6,535,632 to Park.

8.   With regard to claim 1, Park discloses the method comprising: receiving

image data; and simultaneously determining at least two filters of different sizes from

said data (Fig. 6, elements K1-K4). Here Park illustrates four different filter kernel sizes

for performing filtering in an image.

9.   With regard to claim 4, Park discloses the method of claim 1 including

progressively calculating filters from smaller to larger sizes (Fig.6, elements K1-K4).

10.   With regard to claim 8, park discloses the method of claim 1 including

calculating at least two filters for a first pixel among said image data (Fig. 6) and then

calculating a filter for an adjacent pixel. Park discloses a plurality of different kernel

filters to be used depending on the characteristics of the pixel and that area of the

image, then a new filter kernel is selected for each pixel (see abstract).

11.   With regard to claim 9, Park discloses the method of claim 1 including

simultaneously generating at least three filters of different sizes (Fig. 6).

12.   With regard to claim 10, Park discloses the method of claim 1 including

successively calculating filters of progressively larger size (Fig. 6).

13.   With regard to claim 11, Park discloses software and hardware to be used

in an image signal processor. It is clear that Park's invention is to be implemented in an

article comprising a medium storing instructions that enable a processor-based system

to: receive image data; and simultaneously determine at least two filters of different

sizes from said data.

14.   The discussions for claims 1, 4, and 8-10 apply to claims 11, 14, and 18-

20 respectively.

Claim Rejections - 35 USC § 103

15.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3, 5, 12, 13, and 15 are rejected under 35 U.S.C. 103(a) as being

unpatentable over the combination of U.S. Patent 6,536,632 to Park et al. and U.S.

Patent 5,027,423 to Kawata et al.

16.   With regard to claims 2 and 3, Park discloses the method of claim 1

wherein receiving data includes receiving a matrix of data having rows and columns

(Fig. 8A). Park does not disclose reducing the number of rows and reducing the

number of columns by adding rows and columns together. Kawata discloses a circuit

device that adds symmetrical rows in an image window in order to reduce the

computation necessary for computing a filter (see abstract). Kawata teaches that it is

desirable to add rows and columns together in order to reduce data to be processed by

a multiplying section of the circuit thus reducing the number of multipliers and the cost

of manufacturing such a circuit (column 10, lines 1-10). Therefore it would have been

obvious to one of ordinary skill in the art to add rows and columns of pixels together in

order to reduce computation and cost as taught by Kawata in calculating filters in the

method of Park.

17.   With regard to claim 5, Park discloses the method of claim 4 including

receiving image data values. Park does not disclose adding the values together, and

multiplying the values by convolution coefficients. Kawata discloses adding values

together and multiplying them by corresponding coefficients (see abstract).

18.   With regard to claims 12, 13, and 15 the discussion of claims 2, 3, and 5

applies.

19.   Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over the combination of U.S. Patent 6,536,632 to Park et al. and U.S.

Patent 5,027,423 to Kawata et al. and further in view of U.S. Patent 5,351,312 to Sato.

20.   With regard to claim 6, Park discloses calculating filters of different sizes

(Fig. 6). Kawata discloses performing additions and multiplications. Park and Kawata

do not disclose reusing the results of said additions and multiplications calculated for

one filter size, when calculating a filter of a larger size as claimed in claim 5. Sato

discloses reusing the results of the additions and multiplications (column 7, lines 30-35).

Here Sato discloses calculating a filtered pixel value and image signal and then shifting

the filter to the next pixel of interest. The result of the adding and multiplication is

therefore used in the subsequent filter calculation. Park discloses calculating filters of

different sizes and Kawata discloses the adder and multiplier method. It would be

advantageous to change the size of the filter while retaining the calculations of

multiplying and adding from the previous filter calculation to maintain continuity between

filtering operations. Therefore it would have been obvious to one of ordinary skill in the

art to retain the calculations of one filter when calculating a new filter of another size as

taught by Sato to maintain continuity and decrease processing time in the method of

filter calculation of Park and Kawata.

21.   With regard to claim 16, the discussion of claim 6 applies.

22.   Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over the combination of U.S. Patent 6,535,632 to Park et al. and U.S.

Patent 5,351,312 to Sato et al.

23.   With regard to claim 7, Park discloses the method of claim 1 including

receiving data values in rows and columns. Park does not disclose adding together

data values along diagonals. Sato discloses adding pixel values along diagonals

(column 7, lines 25-30). Adding pixels along a diagonal would be helpful in determining

the relationship between the diagonally adjacent pixels. Therefore it would have been

obvious to one of ordinary skill I the art to add image in a diagonal direction to

determine the relationship among the pixels.

24.   With regard to claim 17, the discussion of claim 7 applies.

25.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over

the combination of U.S. Patent 5,027,423 to Kawata et al. and U.S. Patent 6,536,632 to

Park et al.

26.   With regard to claim 21, Kawata discloses the system comprising: a first

set of adders to add together rows and to add together columns of image data; and a

second set of adders and a first set of multipliers to calculate filters (see Abstract and

Fig. 9, elements 11, 12, and 13). Kawata does not disclose calculating at least two

different filter sizes from said image data. Park discloses calculating filters of different

sizes and teaches that it is advantageous to compute filters for various sizes depending

on the nature of the image for which a filter is being calculated (see Abstract). Kawata

only discloses the filtering apparatus for 5x5 sub-blocks. Therefore it would have been

obvious to one of ordinary skill in the art at the time of invention to use multiple filters of

different sizes as taught by Park in the apparatus of Kawata in order to determine an

appropriate filter for the particular image segment being filtered.

27.   With regard to claim 22, Park discloses progressively calculating filters

from smaller to larger sizes (Fig. 6, elements K1-K4).

28.   Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable

over the combination of U.S. Patent 5,027,423 to Kawata et al. and U.S. Patent

6,536,632 to Park et al. and further in view of U.S. Patent 5,351,312 to Sato.

29.   With regard to claim 23, Kawata and Park disclose the system of claim 22.

They do not disclose utilizing the results from said second set of adders and first set of

multipliers for one filter size, when calculating a filter of a larger of a larger size. Sato

discloses reusing the results of the additions and multiplications (column 7, lines 30-35).

Here Sato discloses calculating a filtered pixel value and image signal and then shifting

the filter to the next pixel of interest. The result of the adding and multiplication is

therefore used in the subsequent filter calculation. Park discloses calculating filters of

different sizes and Kawata discloses the adder and multiplier method. It would be

advantageous to change the size of the filter while retaining the calculations of

multiplying and adding from the previous filter calculation to maintain continuity between

filtering operations. Therefore it would have been obvious to one of ordinary skill in the

art to retain the calculations of one filter when calculating a new filter of another size as

taught by Sato to maintain continuity and decrease processing time in the method of

filter calculation of Park and Kawata.

30.   With regard to claim 24, Kawata discloses the system including a state

machine that controls the operation of said first and second adders and said first set of

multipliers (column 5, lines 5-15). Here Kawata discloses shift registers that increment

calculations and coefficient outputs. Here a state machine is inherent in this kind of

digital circuit.

31.   With regard to claim 25, Kawata and Park disclose a system as claimed.

Kawata discloses a second set of adders. Kawata does not disclose using the second

set of adders to add image data along diagonals. Sato discloses adding pixel values

along diagonals (column 7, lines 25-30). Adding pixels along a diagonal would be helpful in determining the relationship between the diagonally adjacent pixels. Therefore it would have been obvious to one of ordinary skill I the art to add image in a diagonal direction to determine the relationship among the pixels.

Conclusion

32.   Applicant's arguments are considered to be non-persuasive. Accordingly, THIS ACTION IS MADE FINAL. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
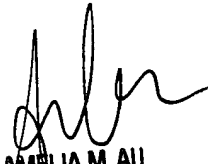
33.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wes Tucker whose telephone number is 703-305-6700. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for

the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

3900.

Wes Tucker
5-17-04

AMELIA M. AU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600